In the Claims

1 (currently amended). A peptidomimetic having the structure shown in formula I:

$$\text{H}_3\text{C} \diagdown \overset{\text{H}}{\underset{|}{\text{C}}} \diagup \text{CH}_3$$

(Structure I — a peptidomimetic with R^1 group, amide linkages, a CH$_2$-phenyl ring bearing a phosphate group HO—P(=O)—OH, isobutyl side chain, and COOH terminus)

(I)

wherein

R^1 is selected from the group consisting of alkyl, alkoxy, cycloalkyl, cycloalkoxy, aryl, aryloxy, alkylcarbonyl, alkoxycarbonyl, cycloalkylcarbonyl, heteroalkyl, ~~heterocycloalkyl,~~ heterocycloalkylcarbonyl, heteroaryl, arylcarbonyl, heteroarylcarbonyl, aryloxycarbonyl, heteroaryloxycarbonyl, heterocycloalkoxy, or heterocycloalkoxycarbonyl, any of which can be optionally substituted with one or more of the following: any halogen, -CN, -COOH, =O, -OH, -NO$_2$, -NH$_2$, -N-alkyl, alkyl, alkoxy, cycloalkyl, cycloalkoxy, aryl, aryloxy, alkylcarbonyl, alkoxycarbonyl, cycloalkylcarbonyl, heteroalkyl, heterocycloalkyl, heterocycloalkylcarbonyl, heteroaryl, arylcarbonyl, heteroarylcarbonyl, aryloxycarbonyl, heteroaryloxycarbonyl, heterocycloalkoxy, and heterocycloalkoxycarbonyl;

or a salt thereof.

2 (previously presented). The peptidomimetic according to claim 1, wherein R^1 is aryl optionally substituted with one or more halogen, -CN, -NO$_2$, -NH$_2$, -CH$_3$, or –OCH$_3$.

3 (previously presented). The peptidomimetic according to claim 2, wherein said one or more halogen is, independently, Cl or F.

4 (previously presented). The peptidomimetic according to claim 1, wherein R^1 is phenyl substituted with one or more halogen, -CN, -NO$_2$, -NH$_2$, -CH$_3$, or –OCH$_3$.

5 (previously presented). The peptidomimetic according to claim 4, wherein said one or more halogen is, independently, Cl or F.

6 (previously presented). The peptidomimetic according to claim 1, wherein R^1 is heteroaryl optionally substituted with one or more halogen, -CN, -NO$_2$, -NH$_2$, -CH$_3$, or –OCH$_3$.

7 (previously presented). The peptidomimetic according to claim 6, wherein said one or more halogen is, independently, Cl or F.

8 (previously presented). The peptidomimetic according to claim 1, selected from the group consisting of:

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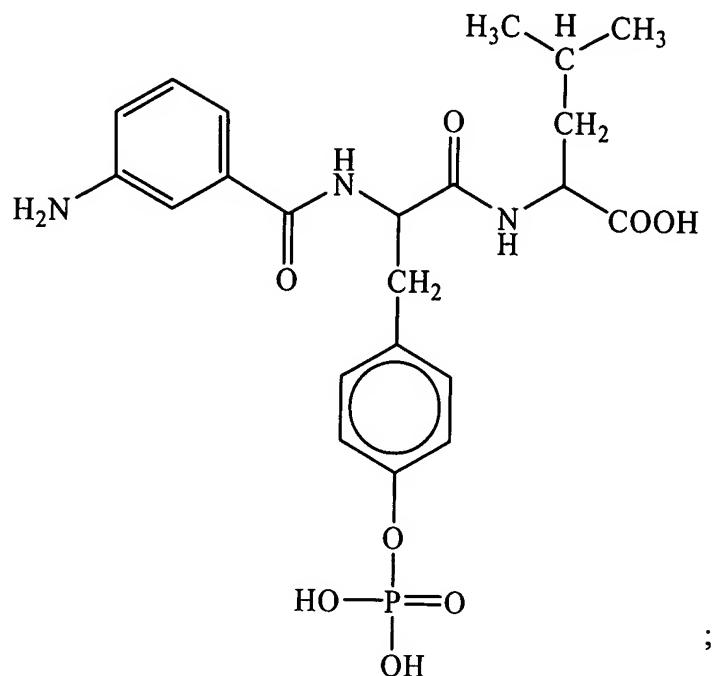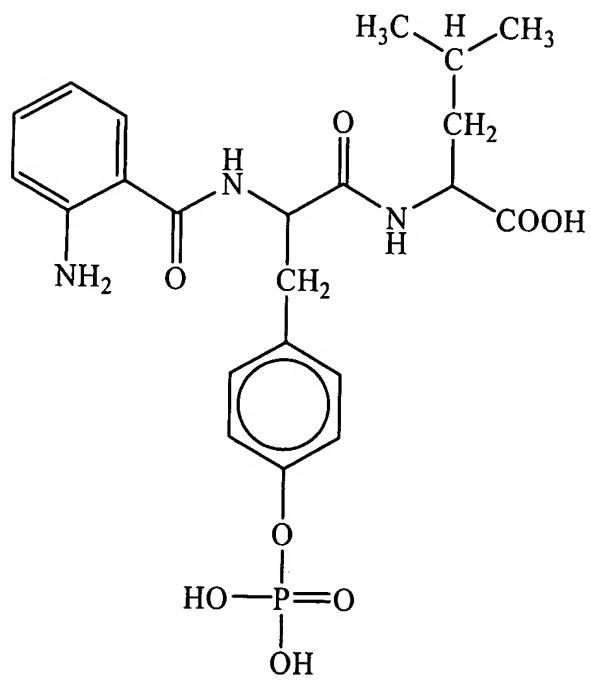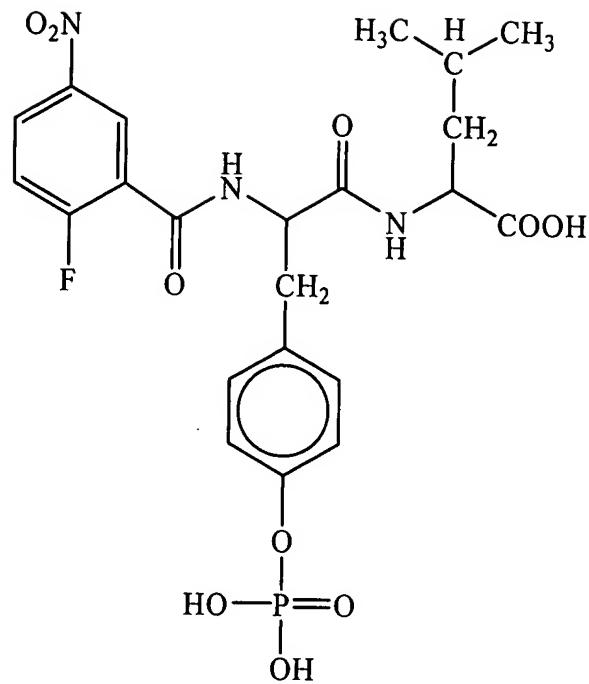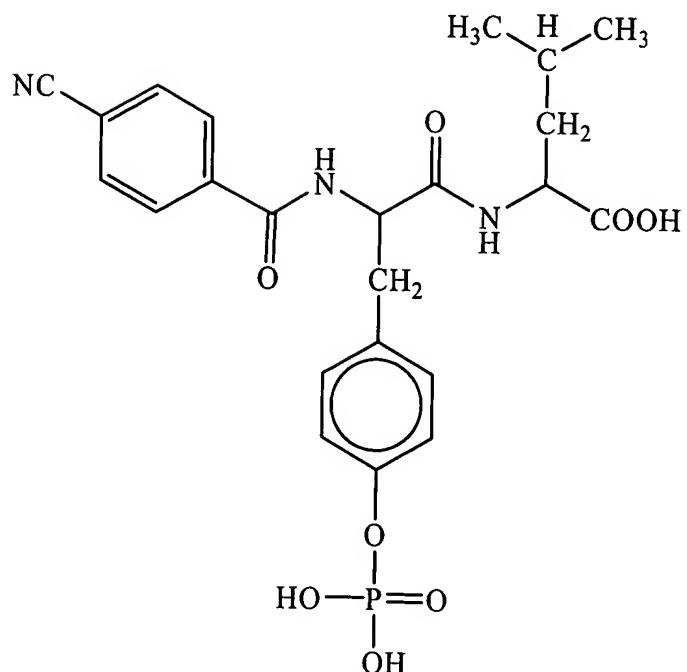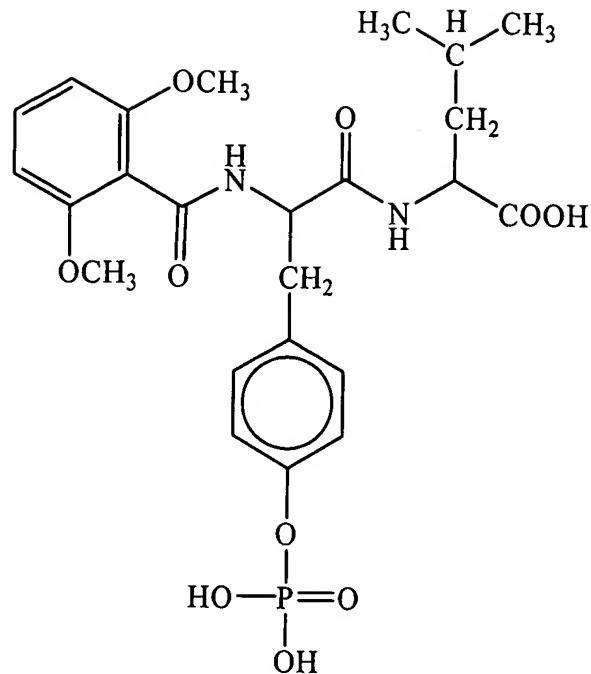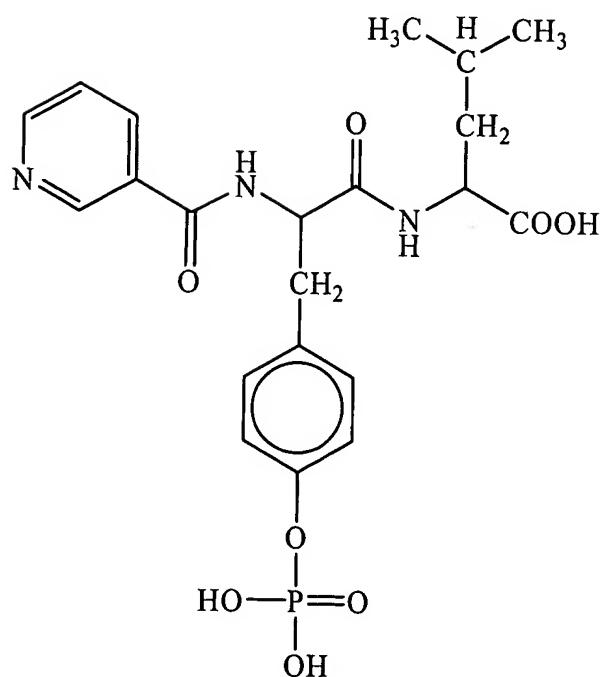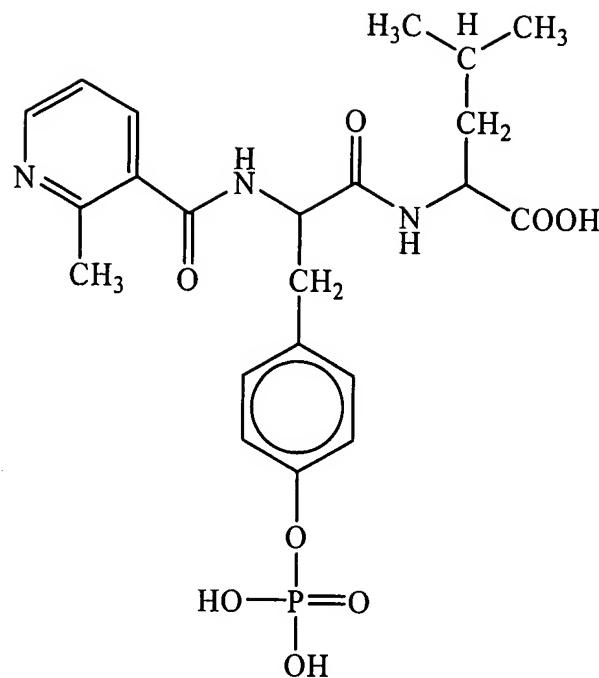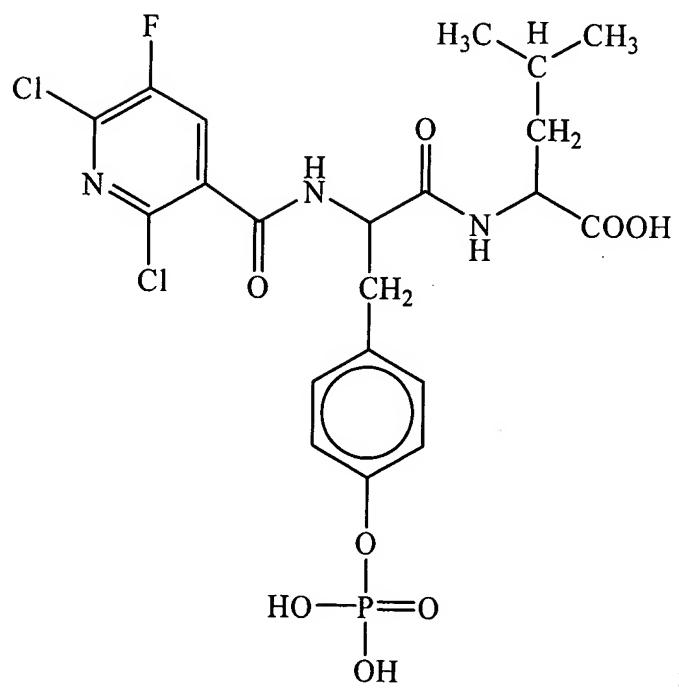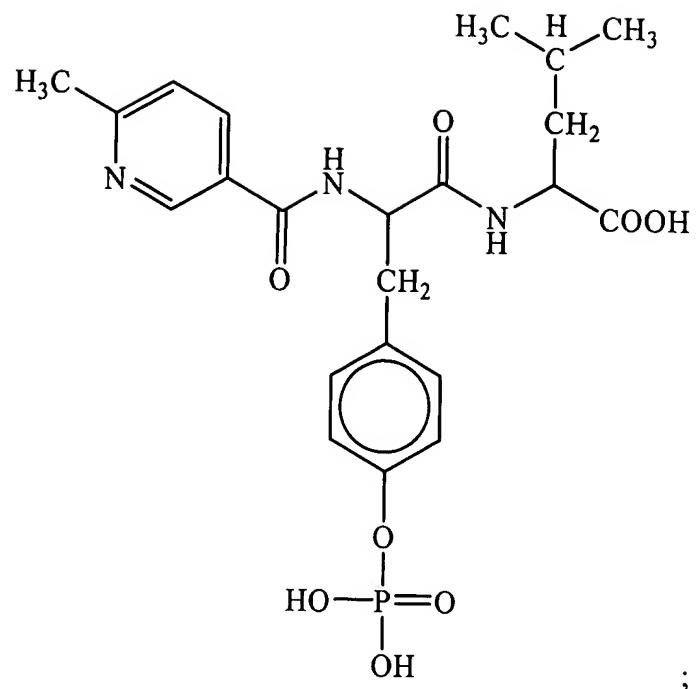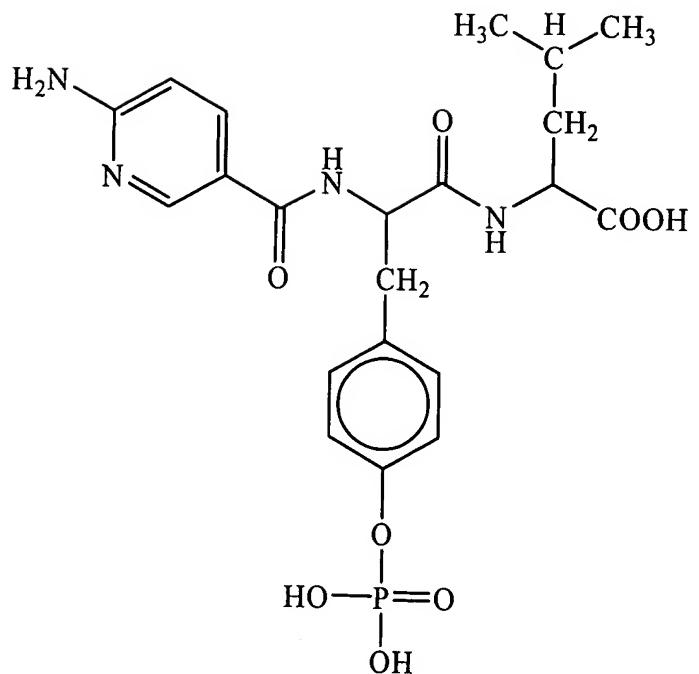
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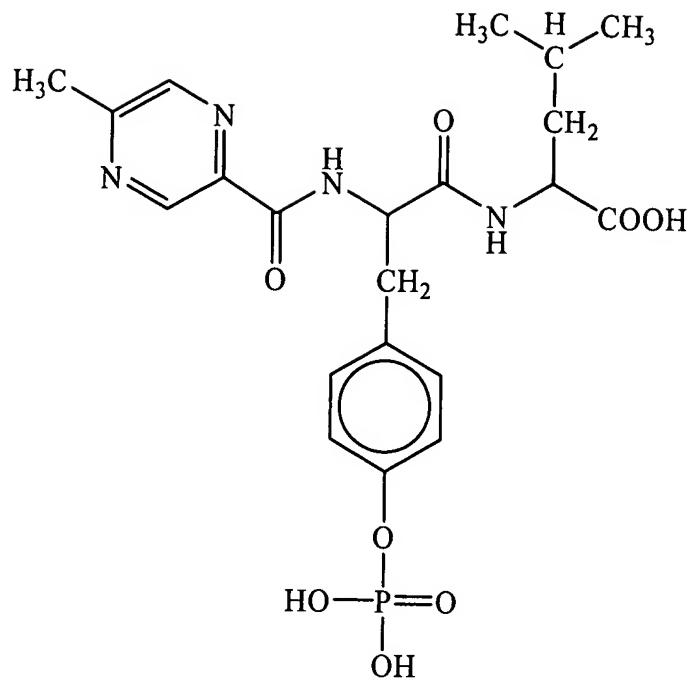
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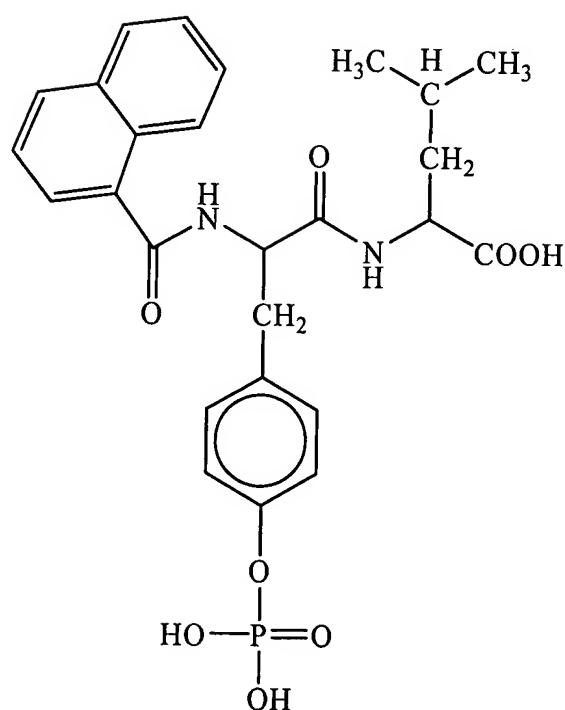
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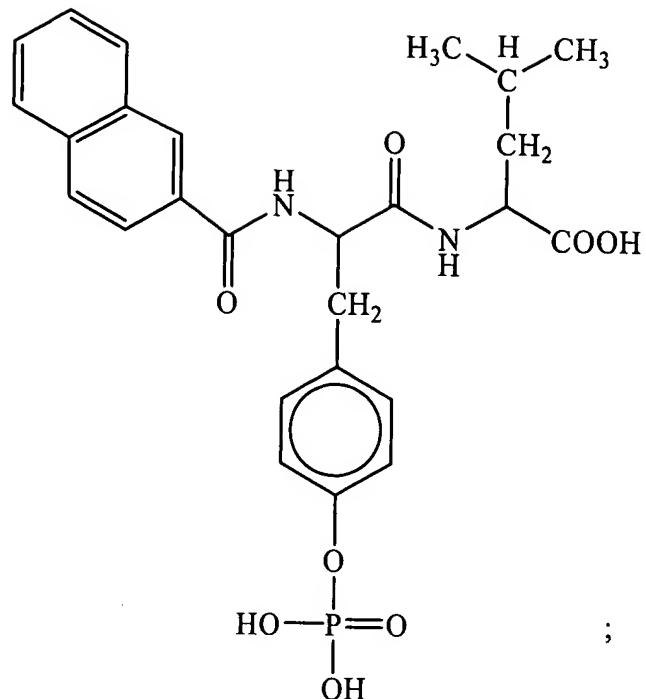
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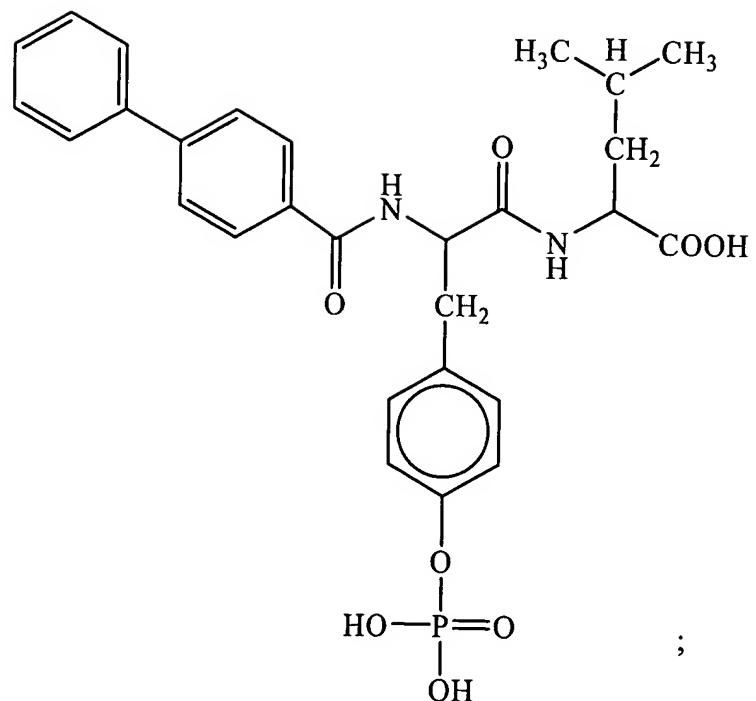
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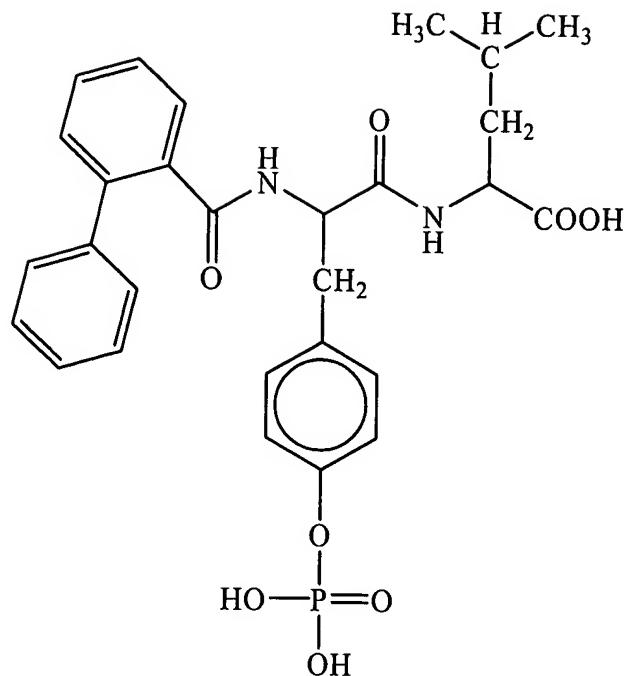
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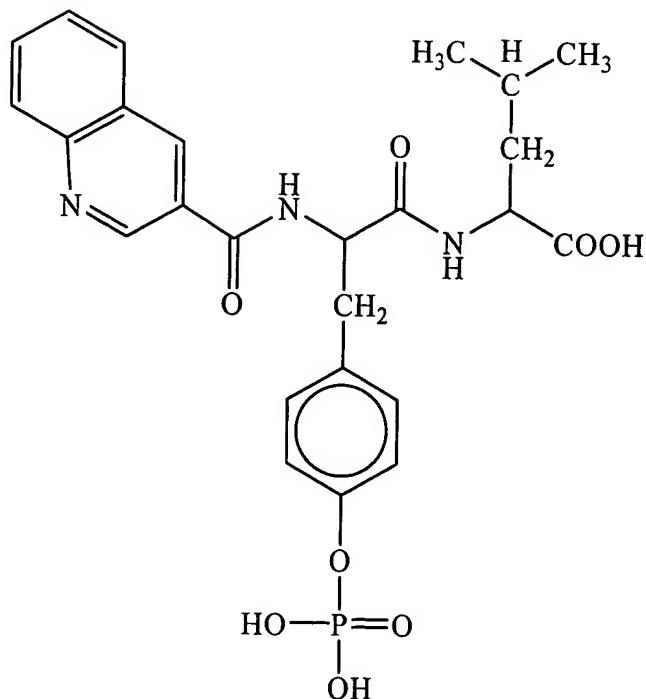
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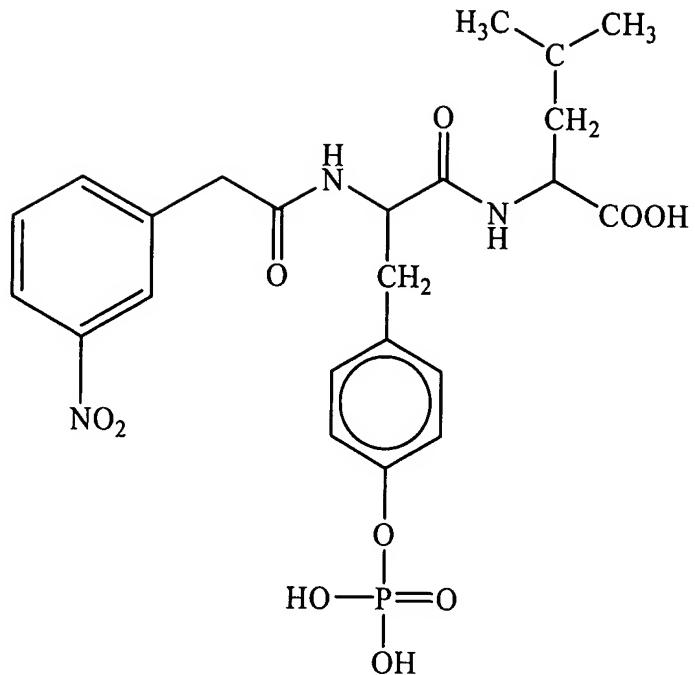
9 (previously presented). A composition comprising a peptidomimetic of claim 1 in a pharmaceutically acceptable carrier or diluent.

10 (previously presented). A method for inhibiting growth or replication, or inducing apoptosis in a target cell, said method comprising contacting the target cell with a peptidomimetic of claim 1 or a composition of claim 9.

11 (previously presented). The method according to claim 10, wherein said peptidomimetic is selected from the group consisting of:


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or

H₃C — H — CH₃

H_3C — H — CH_3

CH_2

O

H
N

N
H

COOH

CH_2

O

HO—P=O

OH

;

or

H_3C — H — CH_3

CH_2

O

H
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N
H

COOH

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CH_2

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HO—P=O

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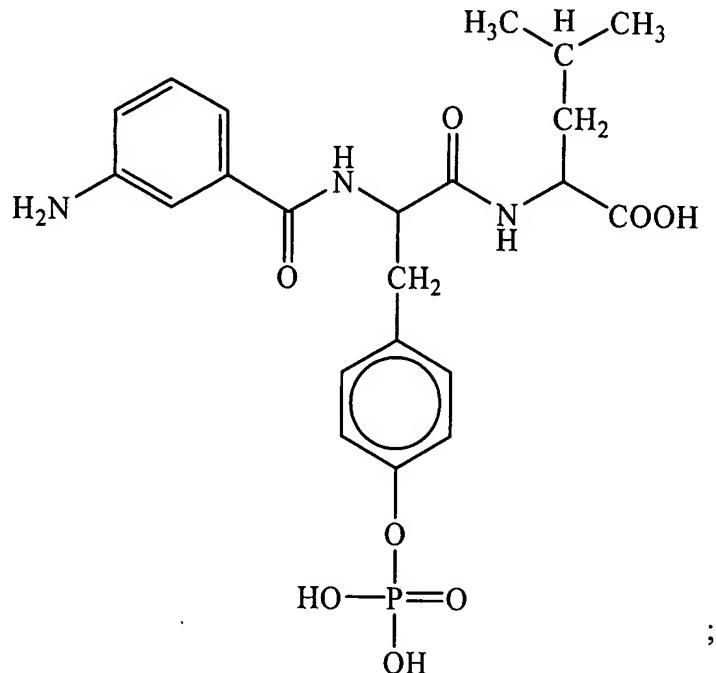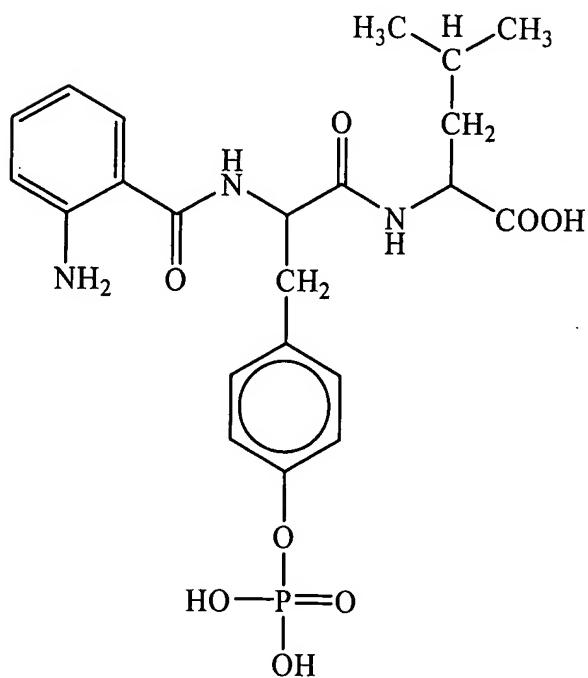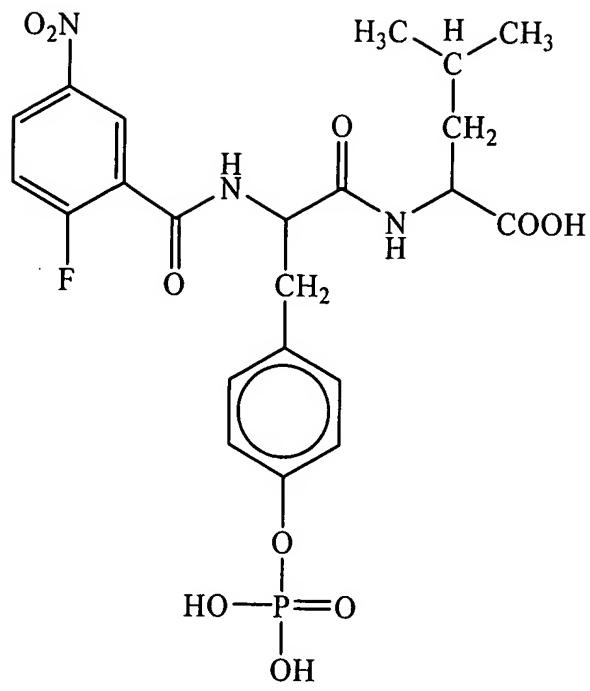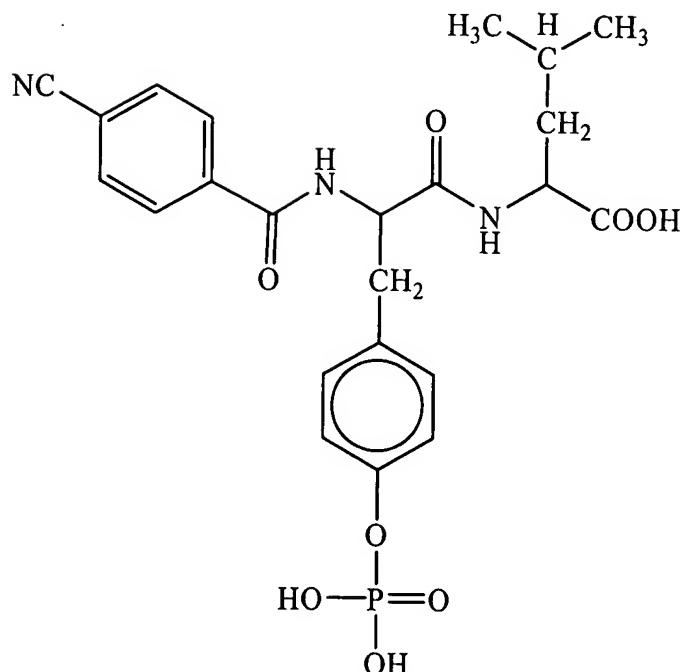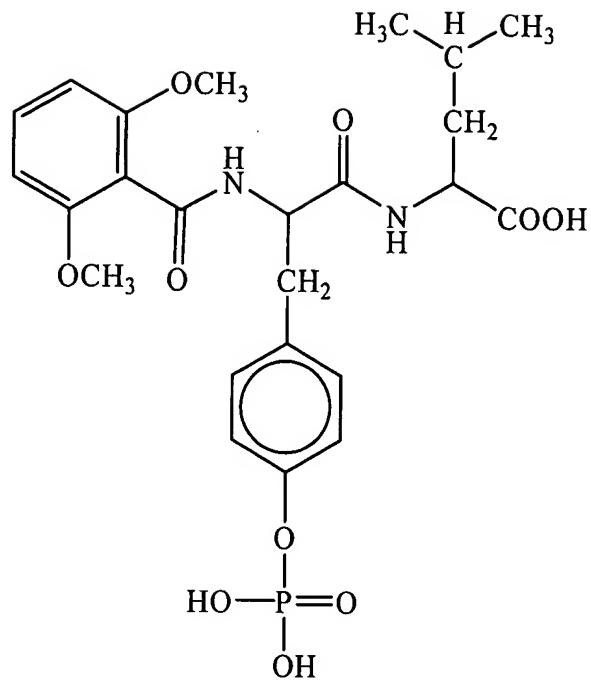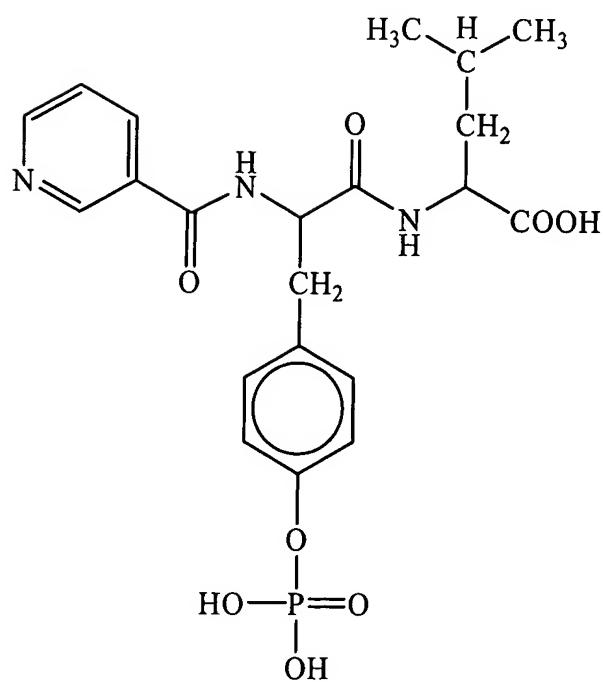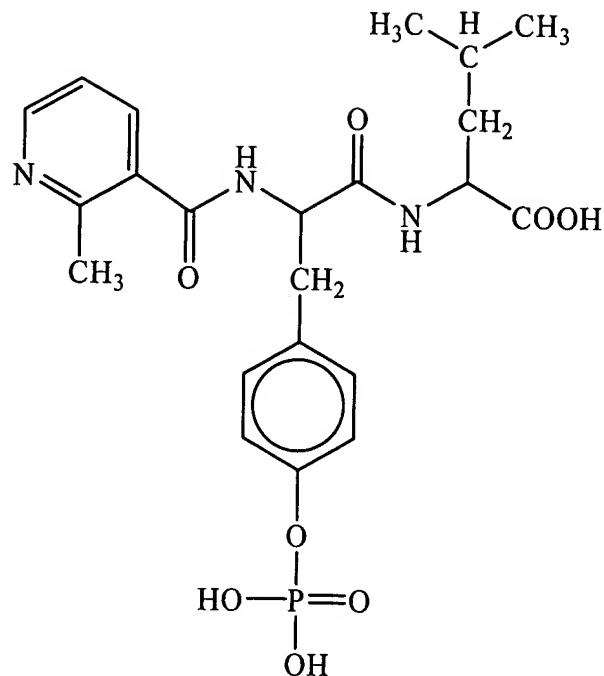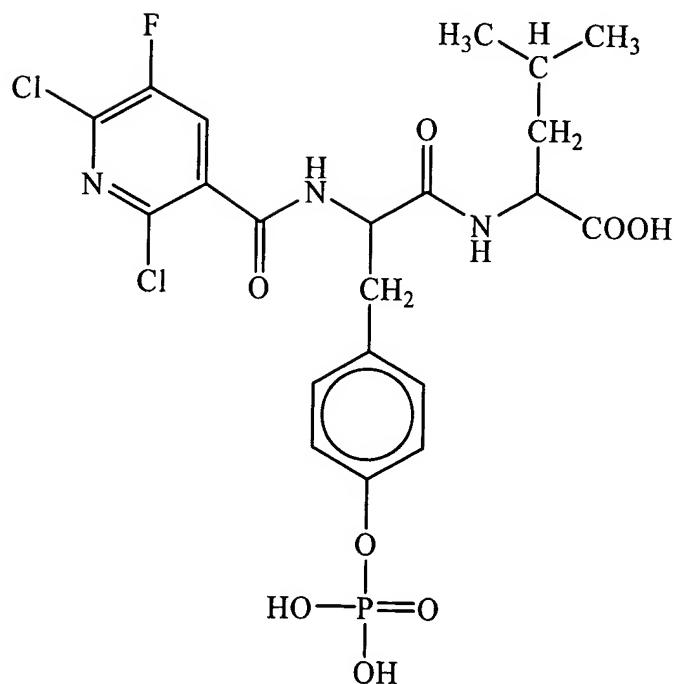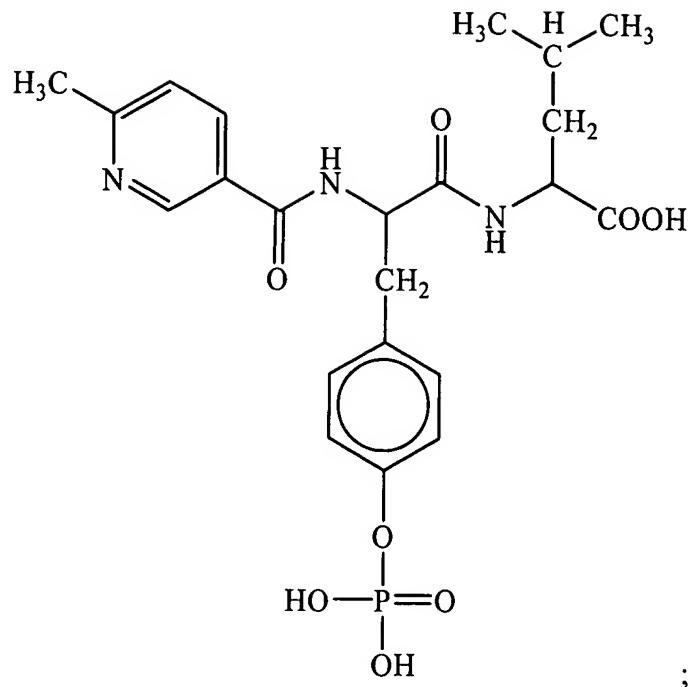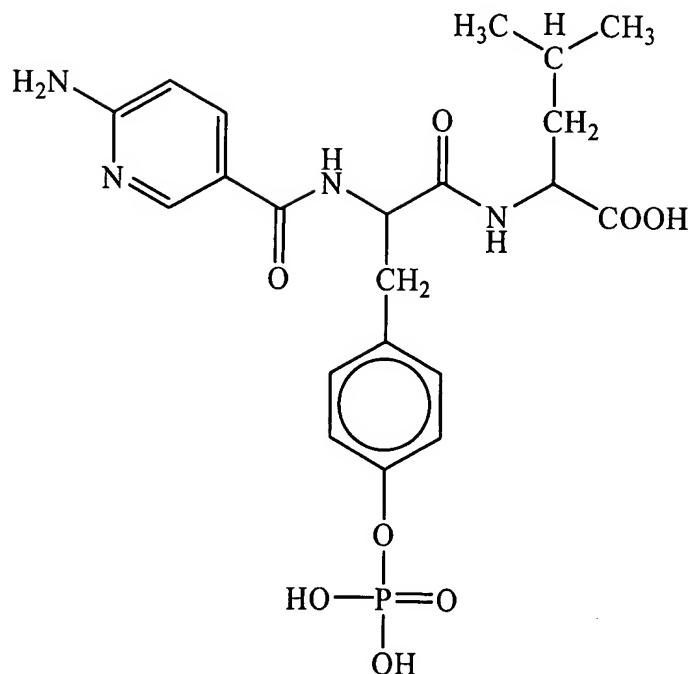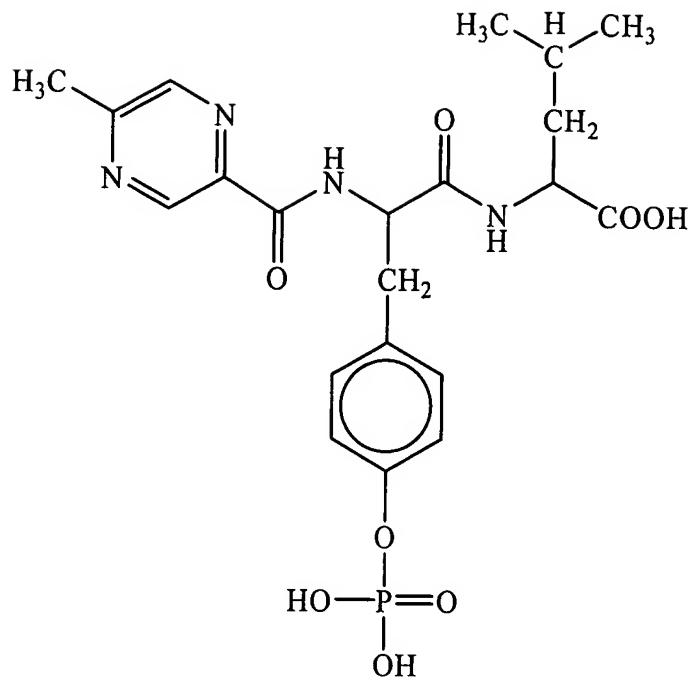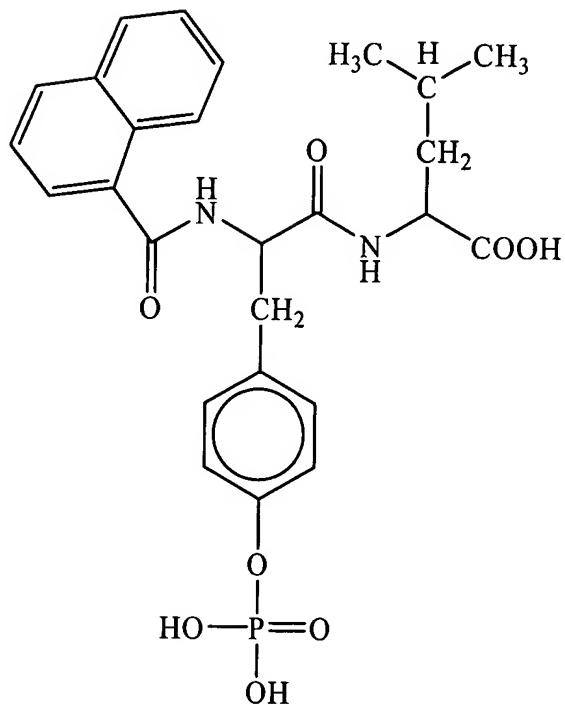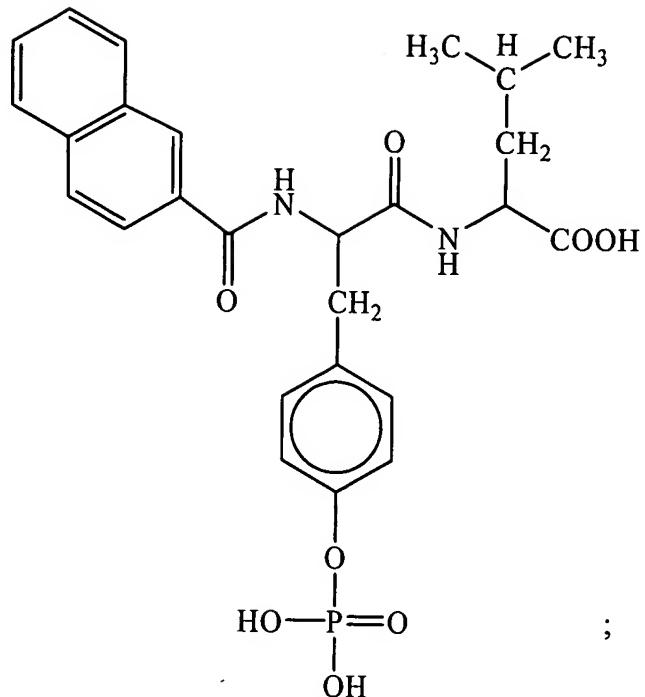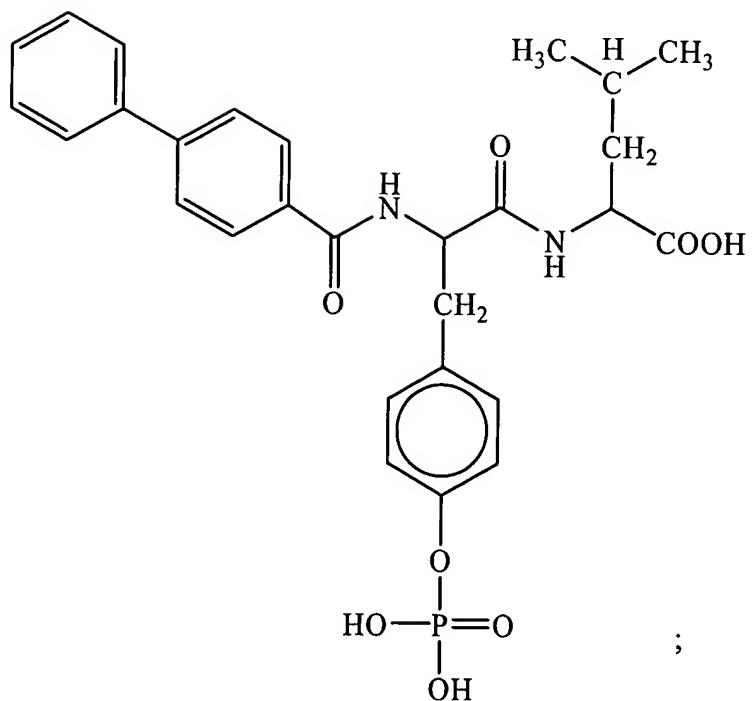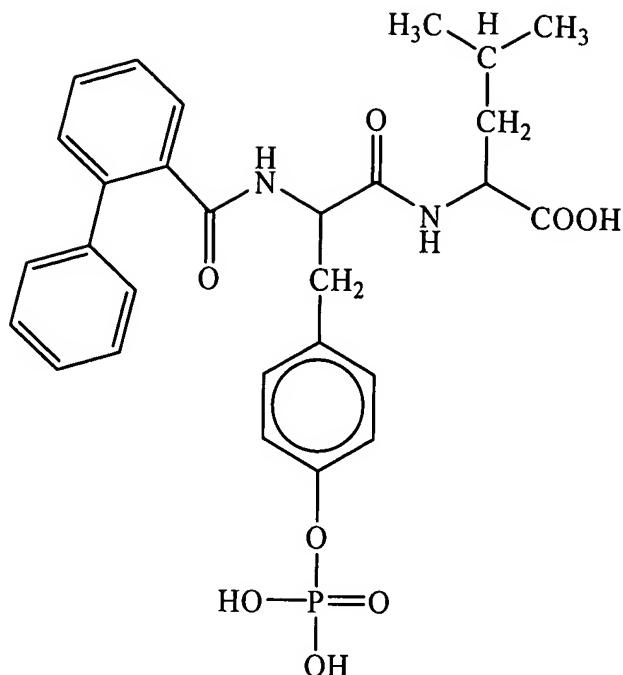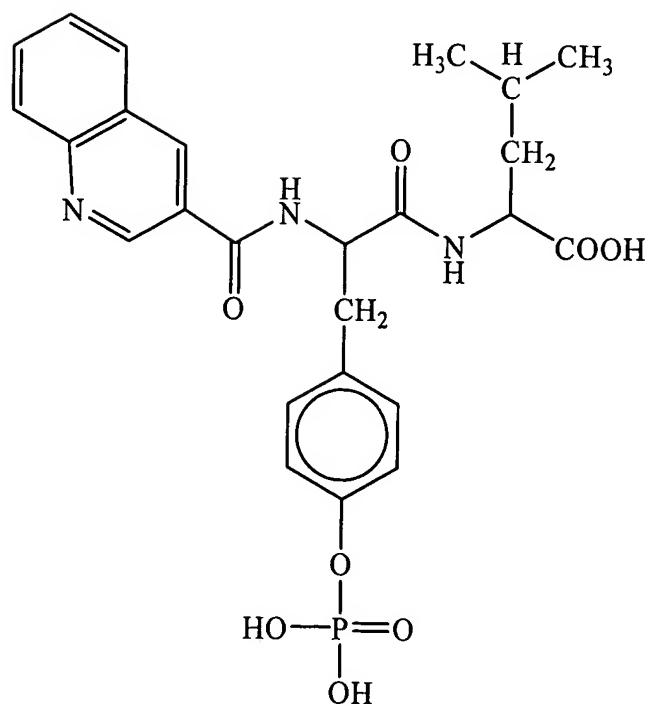
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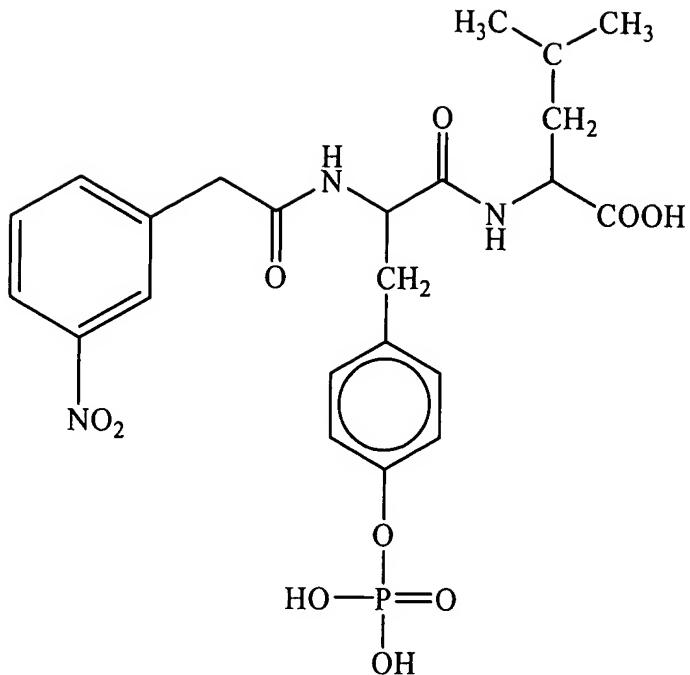
12 (previously presented). A method for treating a tumor or an oncological disorder in a human or animal, said method comprising administering an effective amount of a peptidomimetic of claim 1 or a composition of claim 9 to the human or animal.

13 (previously presented). The method according to claim 12, wherein said peptidomimetic is selected from the group consisting of:


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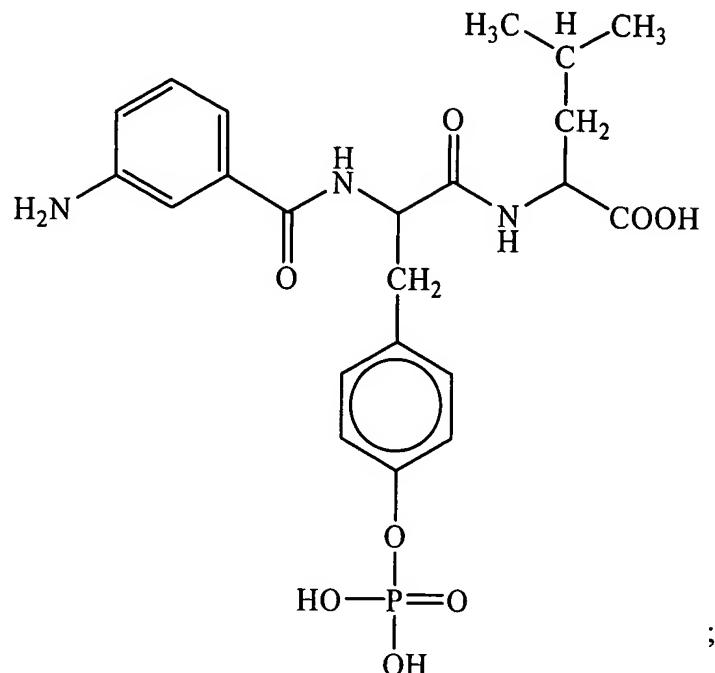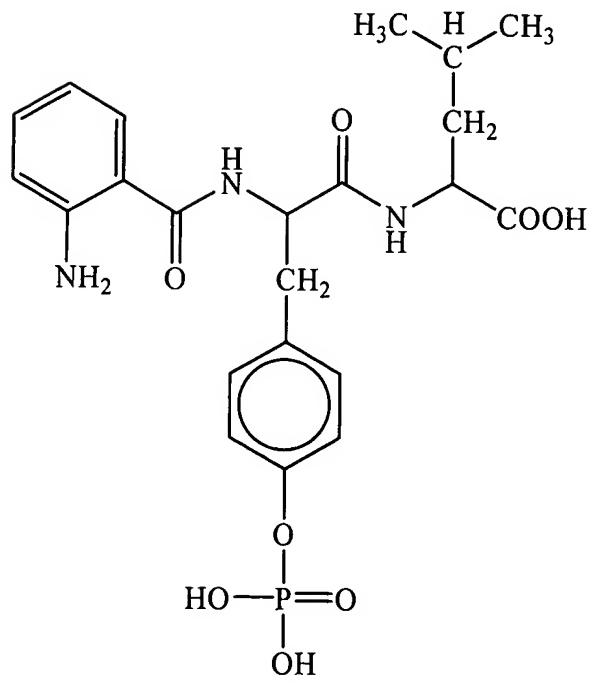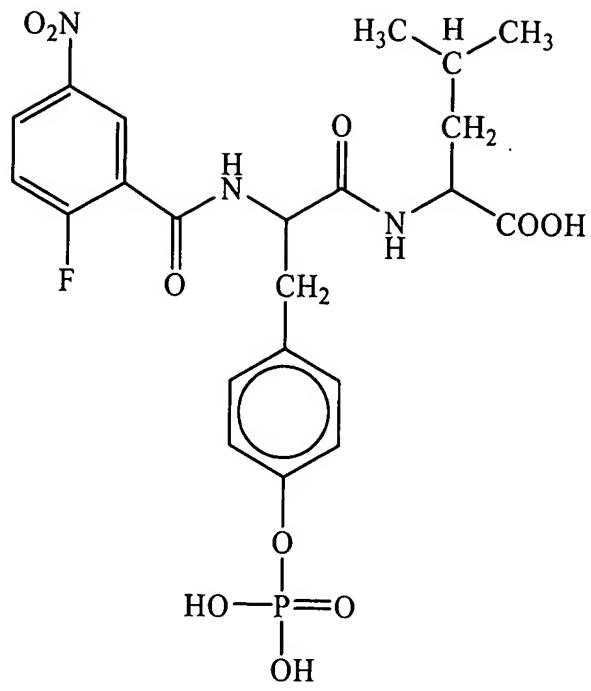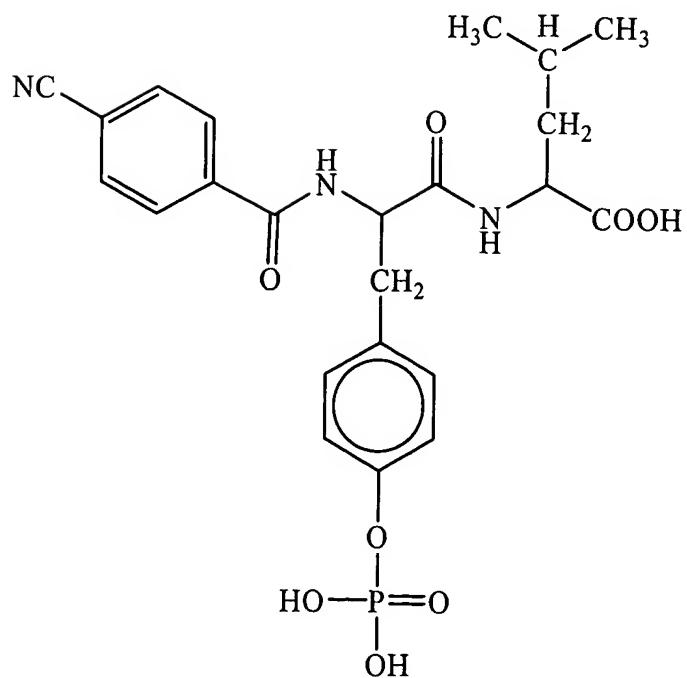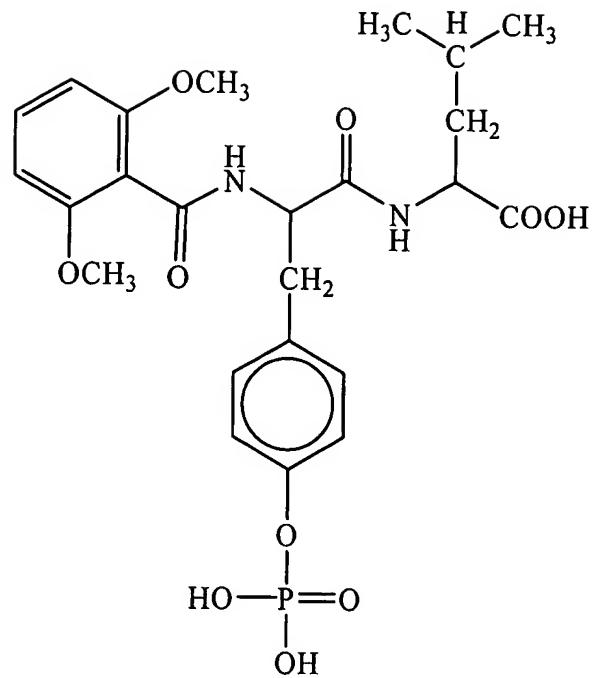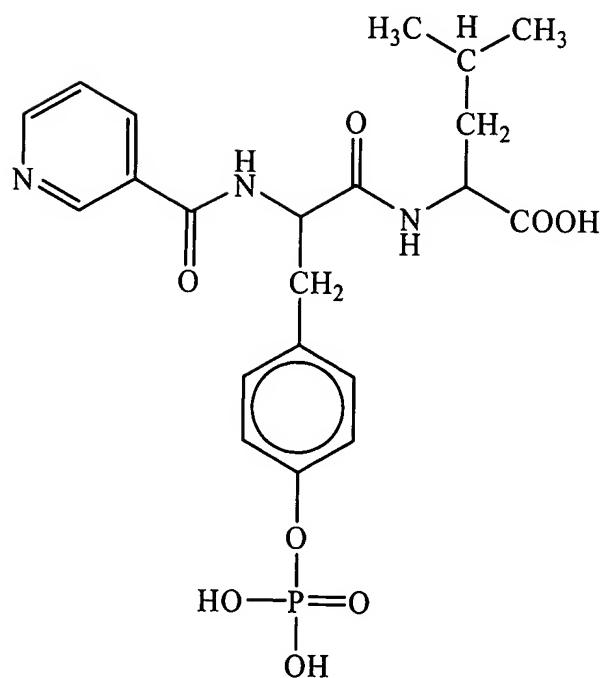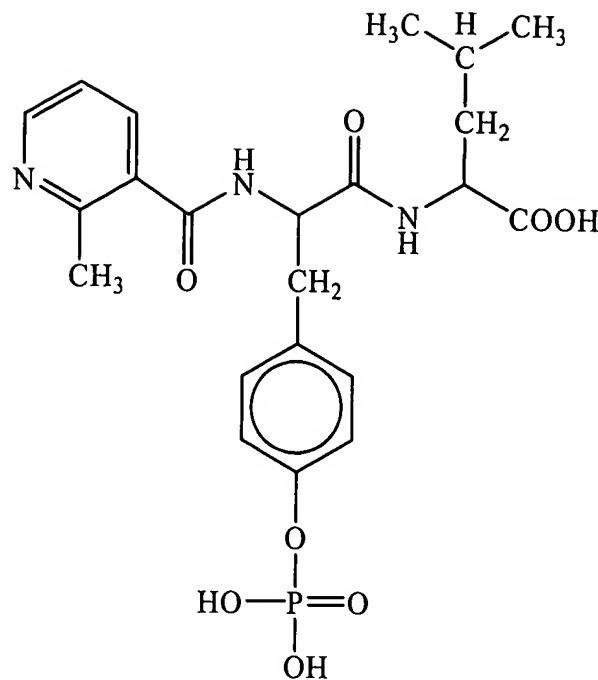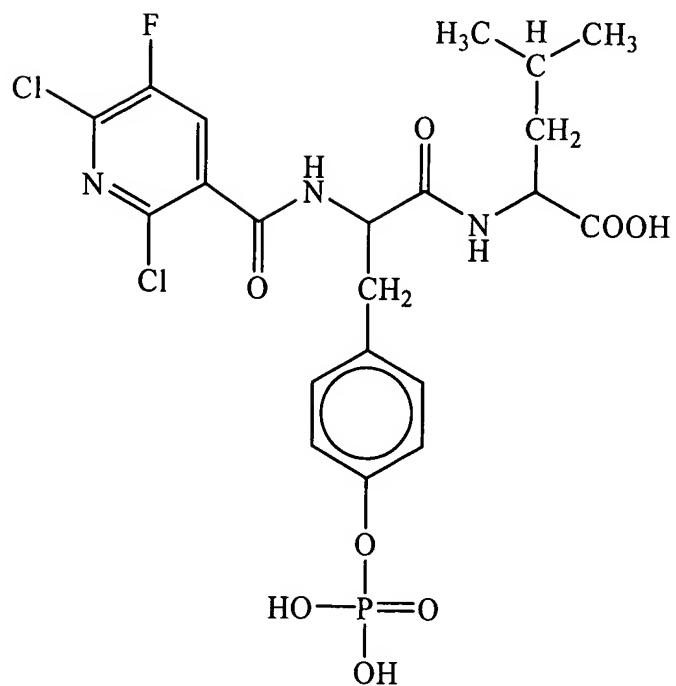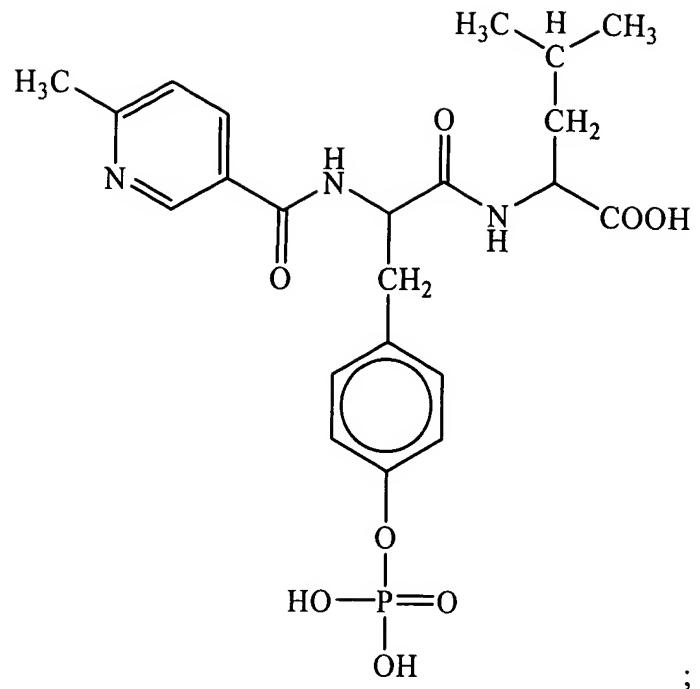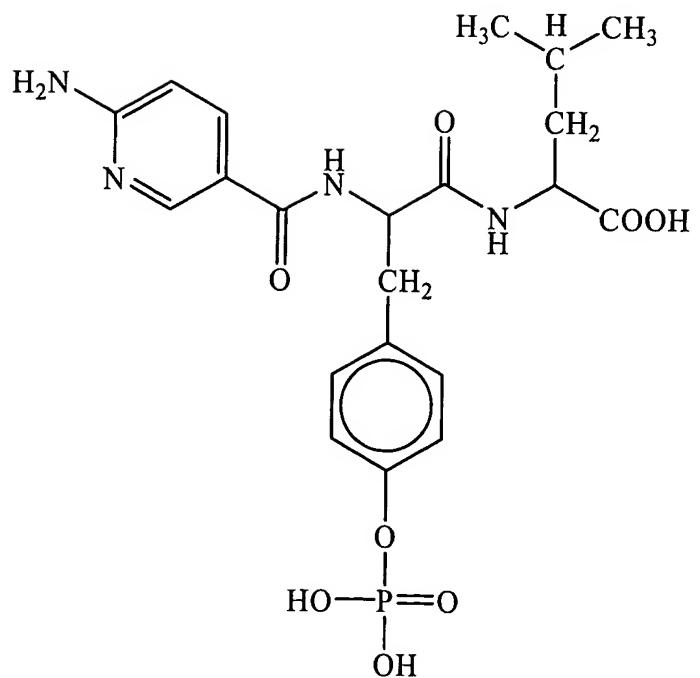
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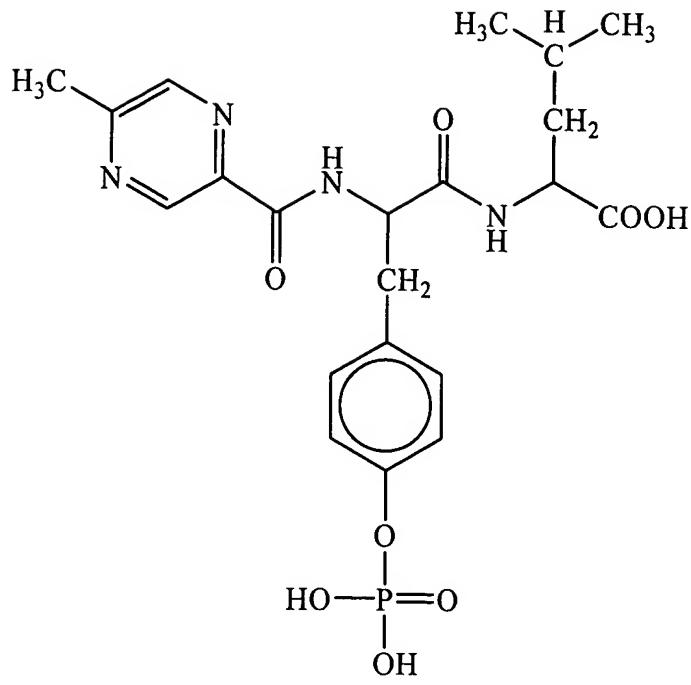
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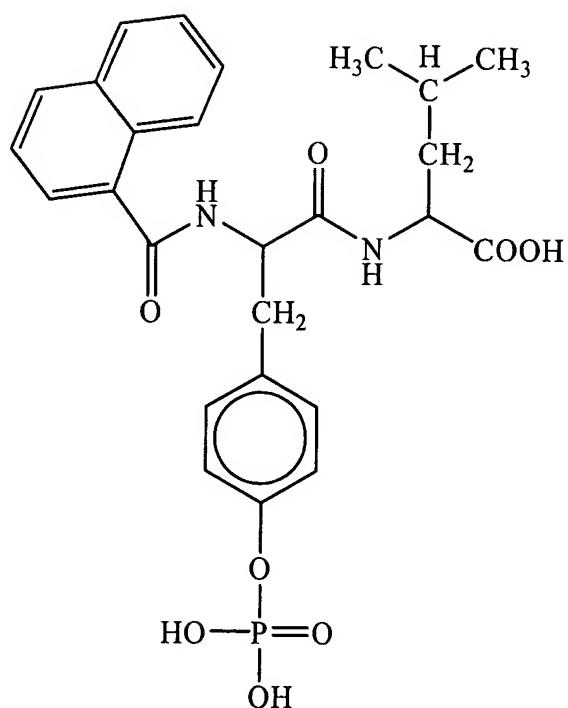
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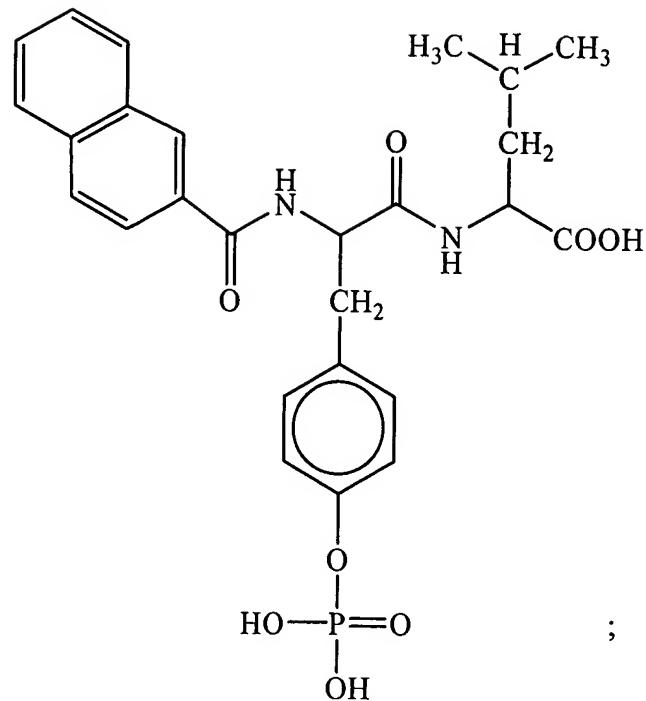
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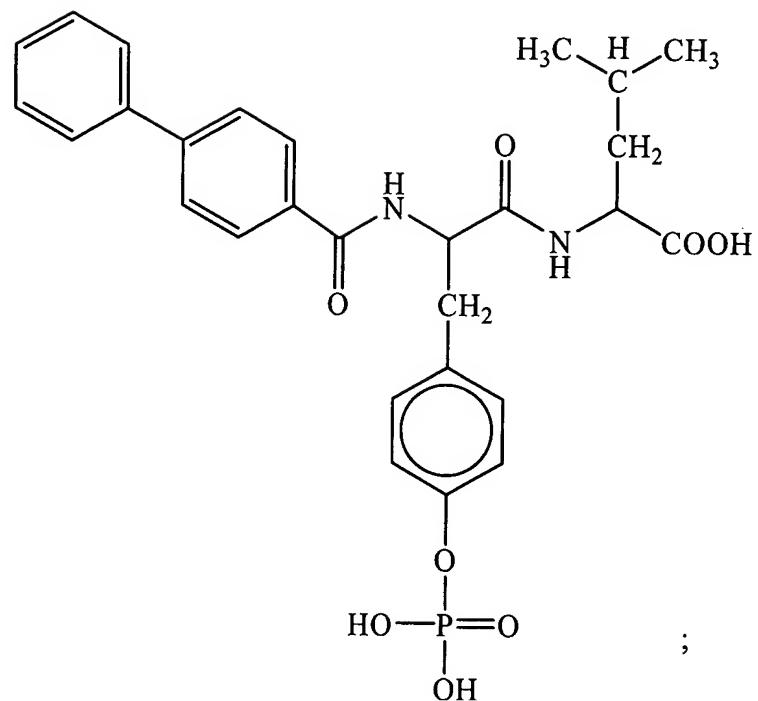
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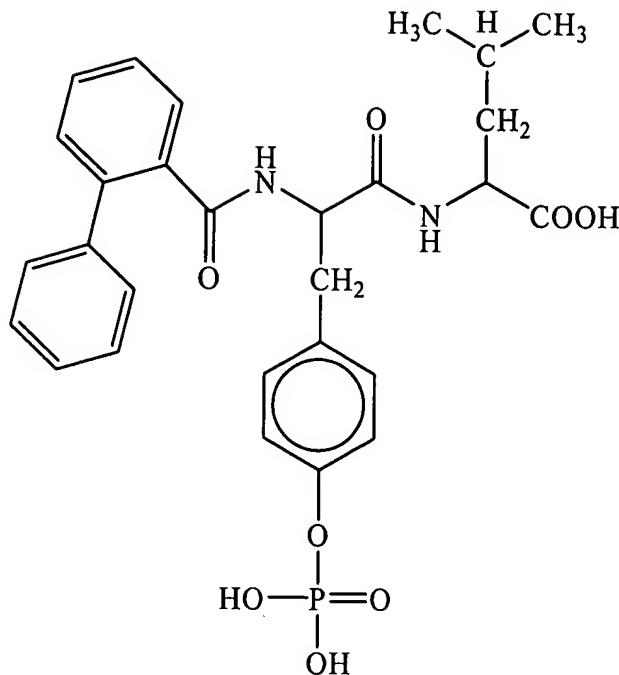
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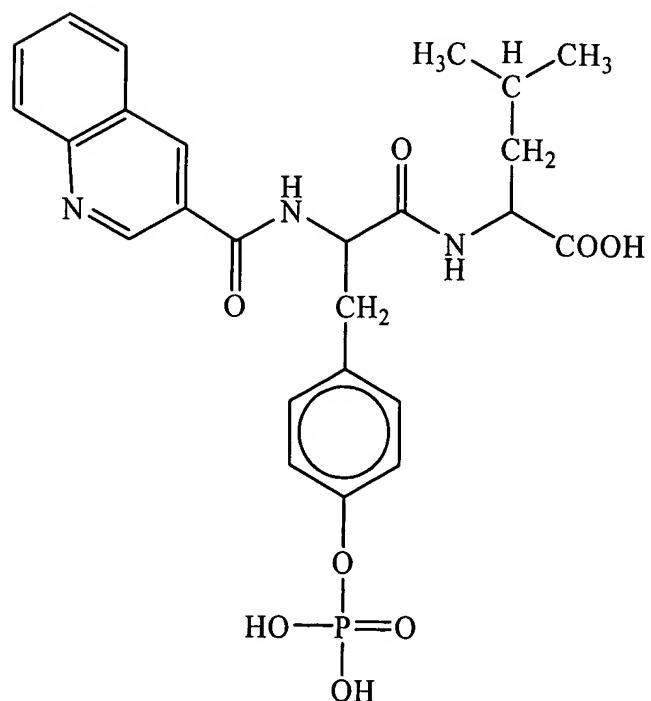
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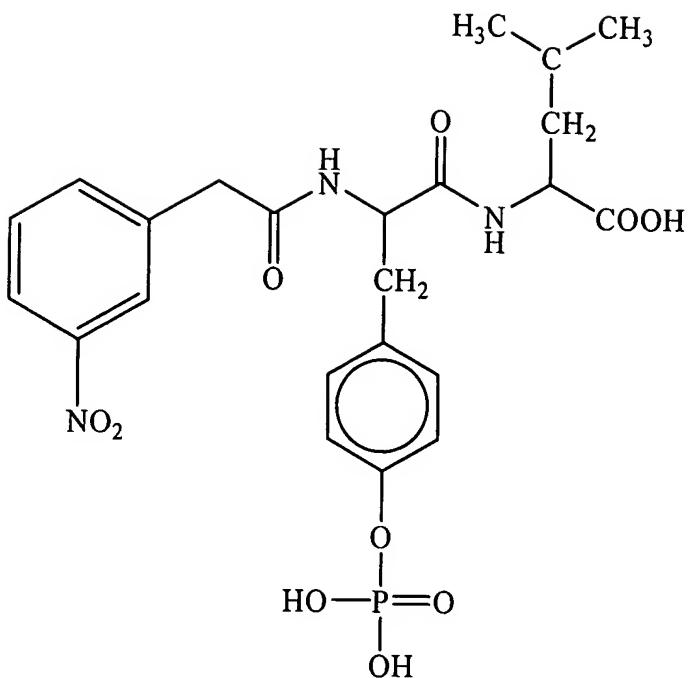
14 (previously presented). The method according to claim 12, wherein said tumor or oncological disorder is selected from the group consisting of breast, kidney, mouth, larynx, esophagus, stomach, testis, cervix, head, neck, colon, ovary, lung, bladder, skin, muscle, pancreas, prostate, bone, eye, blood cells, and brain.

15 (currently amended). A peptidomimetic having the formula:

$$R^1Y^*L$$

wherein

R^1 is selected from the group consisting of alkyl, alkoxy, cycloalkyl, cycloalkoxy, aryl, aryloxy, alkylcarbonyl, alkoxycarbonyl, cycloalkylcarbonyl, heteroalkyl, ~~heterocycloalkyl,~~ heterocycloalkylcarbonyl, heteroaryl, arylcarbonyl, heteroarylcarbonyl, aryloxycarbonyl, heteroaryloxycarbonyl, heterocycloalkoxy, or heterocycloalkoxycarbonyl, any of which can be optionally substituted with one or more of the following: any halogen, -CN, -COOH, =O, -OH, -NO₂, -NH₂, -N-alkyl, alkyl, alkoxy, cycloalkyl, cycloalkoxy, aryl, aryloxy, alkylcarbonyl, alkoxycarbonyl, cycloalkylcarbonyl, heteroalkyl, heterocycloalkyl, heterocycloalkylcarbonyl,

heteroaryl, arylcarbonyl, heteroarylcarbonyl, aryloxycarbonyl, heteroaryloxycarbonyl, heterocycloalkoxy, and heterocycloalkoxycarbonyl;

Y* is phosphotyrosine, <u>wherein the aromatic ring of phosphotyrosine can be optionally substituted with any halogen, -OH, -NO2, -NH2, -COOH, alkyl, or alkoxy</u>or any analog thereof;

L is leucine, or another non-polar amino acid;

or a salt thereof.

16 (previously presented). The peptidomimetic according to claim 15, wherein L is alanine or valine.

17 (previously presented). The peptidomimetic according to claim 1, wherein the peptidomimetic has the structure:
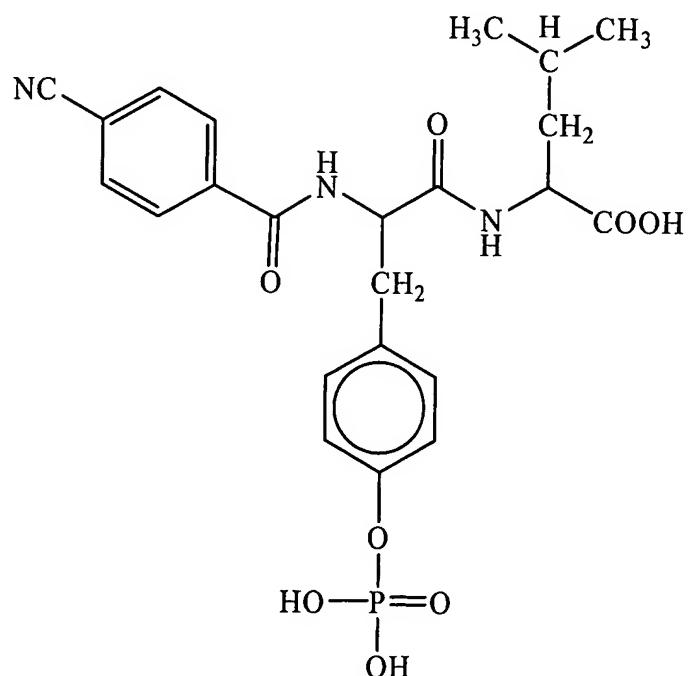
18 (previously presented). The method according to claim 10, wherein the peptidomimetic has the structure:

$$H_3C \overset{H}{\underset{C}{}} CH_3$$

(structure of compound for claim 18)
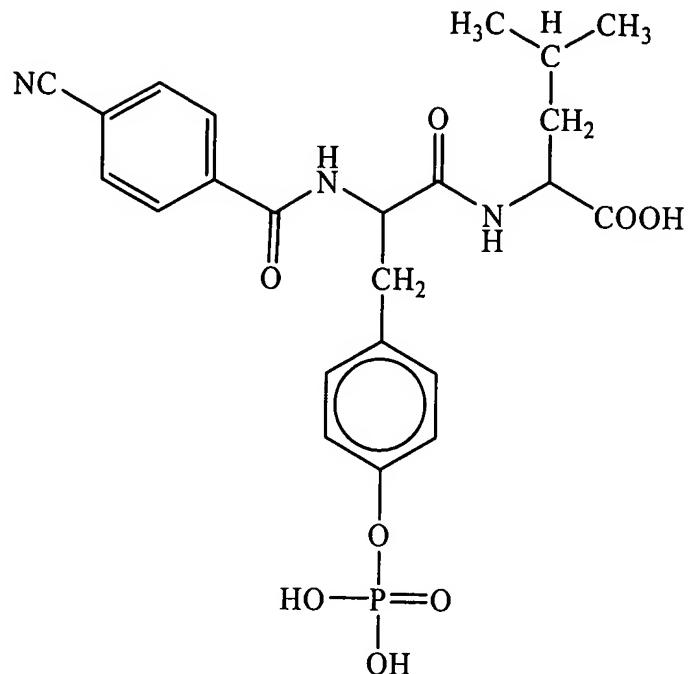
19 (previously presented). The method according to claim 12, wherein the peptidomimetic has the structure:

$$H_3C \overset{H}{\underset{C}{}} CH_3$$

(structure of compound for claim 19)
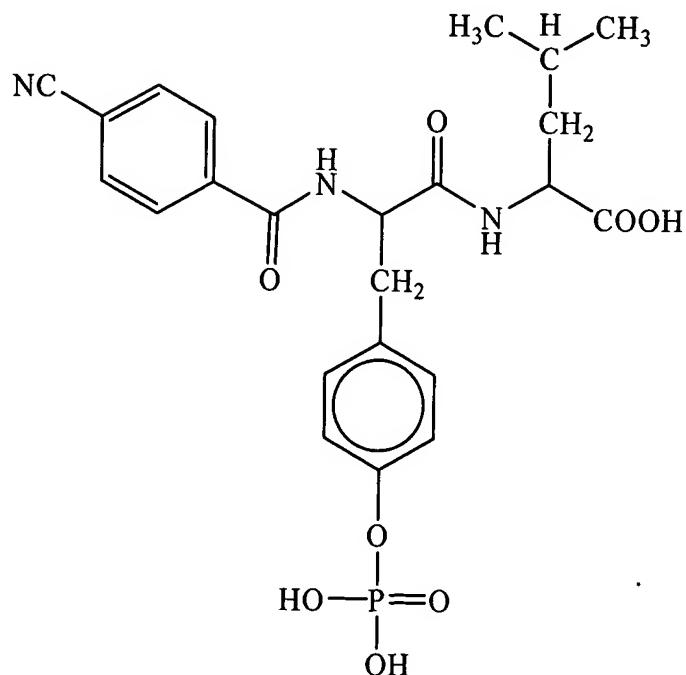
20 (new). The peptidomimetic according to claim 15, wherein said phosphotyrosine is optionally substituted with –CH$_3$ or –OCH$_3$.